

## Abstract of the Disclosure

Polymer nanofibers, such as polyaniline nanofibers, with uniform diameters less than 500 nm can be made in bulk quantities through a facile aqueous and organic interfacial polymerization method at ambient conditions. The nanofibers have lengths varying from 500 nm to 10  $\mu$ m and form interconnected networks in a thin film. Thin film nanofiber sensors can be made of the polyaniline nanofibers having superior performance in both sensitivity and time response to a variety of gas vapors including, acids, bases, redox active vapors, alcohols and volatile organic chemicals.

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